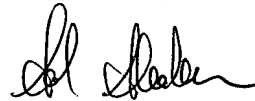# REMARKS

The above amendments are made to more clearly define applicant's invention.

No new matter is added by the above amendments.

Attached hereto is a marked-up version of the changes made to the

specification and claims by the current amendment. The attached page is captioned

"Version with markings to shown changes made."

Claims 1 – 33 are to be considered in the application.

An early and favorable action is therefore respectfully requested.

Respectfully submitted,

Sol Sheinbein
Registration No. 25,457
Attorney for Applicant

Date: August 28, 2002

VERSION WITH MARKINGS TO SHOWN CHANGES MADE

In the Claims:

Claims 1 - 6, and 9 - 14 have been amended.

Claim 1 has been amended as follows:

-- 1.(Amended) A system for automatic process control ~~comprising an~~ ~~empirical prediction model~~ of a process having an input space comprising input boundaries, the ~~model requiring empirical data, and wherein at least some data for the~~ ~~empirical prediction model is simulated data.~~ system comprising:

a measurement unit for taking measurements of said process at selected points of said input space,

a controller, controllably associated with said input space, for selecting said points of said input space such as to maximize information about said input space from a predetermined number of said points, and

a regressor for obtaining a predictive model of said process over said input space by regression from said measurements, thereby to provide said automatic process control. --

Claim 2 has been amended as follows:

-- 2. (Amended) A system according to claim 1, wherein ~~the simulated data is~~ ~~data obtainable from~~ said predictive model comprises a first formula describing the process. --

Claim 3 has been amended as follows:

-- 3. (Amended) A system according to claim 2, wherein ~~the first formula is obtainable by regression from a data set of experimental results of the process run at least at its input boundaries~~ said points comprise at least input boundaries of said process. --

Claim 4 has been amended as follows:

-- 4. (Amended) A system according to claim 3, wherein ~~the simulated data is obtainable from said first formula at~~ said points comprise further desired points ~~across said input space~~. --

Claim 5 has been amended as follows:

5. A system according to claim 4, wherein said ~~data set comprises the results of experiments having input conditions and whose input conditions~~ points are definable by a geometric spacing ~~of said experiments~~ across said input space.

Claim 6 has been amended as follows:

-- 6. (Amended) A system according to claim 5, wherein said geometric spacing is selectable to give an even spread of ~~experiments~~ points across said input space. --

Claim 9 has been amended as follows:

-- 9. (Amended) A system according to claim 2, wherein said ~~first formula~~ predictive model is any one of a group comprising a linear formula, a linear formula with interaction between inputs, a quadratic formula and a quadratic formula with interaction between inputs. --

Claim 10 has been amended as follows:

-- 10. (Amended) A system according to claim 1, wherein said input space is divisible into discrete regions, and wherein said ~~empirical~~ predictive model comprises predicted process ~~outputs associated with each discrete region~~. --

Claim 11 has been amended as follows:

-- 11. (Amended) A system according to claim ~~9~~ 10, wherein said input space is divisible into discrete regions, and wherein said ~~empirical~~ predictive model comprises predicted outputs associated with each discrete region. --

Claim 12 has been amended as follows:

-- 12.(Amended)A system according to claim 11, wherein results for said predicted outputs are producible by said ~~first formula~~ predictive model and obtainable from running said process, said results being interchangeable within said empirical model. --

Claim 13 has been amended as follows:

-- 13. (Amended) A system according to claim 12, further having an empirical results quantity assessor for interchanging results produced by said ~~first formula~~

<u>predictive model</u> with results obtained from running said process when said results obtained from running said process are assessed to be statistically significant according to at least one predetermined criterion of significance. --

Claim 14 has been amended as follows:

-- 14. (Amended) A system according to claim 12, having a prediction quality assessor for interchanging results obtained by running said process with results obtained from said ~~first formula~~ <u>predictive model</u> when a prediction of said ~~empirical~~ <u>predictive</u> model is assessed to diverge significantly from an outcome of said process according to at least one predetermined criterion of significance. --